

VII. Vessel Speed And Traffic Patterns

Ship Traffic

A variety of commercial, military and public vessels enter, exit and transit the Bay. Many vessels such as ferries and tugs remain entirely within the Bay. Container ships, oil tankers and bulk carriers account for the greatest percentage of ship arrivals; however, a broad range of cargo transits the region every year. Other categories of ships include vehicle carriers, break bulk, chemical tankers and passenger ships. Occasionally, surface combatants, submarines and naval auxiliaries such as oil tankers and supply ships transit the Bay. Public vessels often encountered on the Bay include those of the U.S. Coast Guard, the Army Corps of Engineers, NOAA, and the Military Sealift Command.

In order to safely transit the shipping channels to marine oil terminals in the North Bay and Carquinez Strait, some large oil tankers lighter oil to barges or to smaller ships. Lightering is the process of transferring oil from a larger ship tanker into smaller vessels to reduce the draft of the larger tanker. The large tanker can then proceed to a marine terminal and continue discharging the balance of its cargo. Lightering operations in the Bay take place in Anchorage 9 just south of the Oakland-Bay Bridge. The California State Lands Commission provides annual reports of the amount of oil shipped through the region (see Appendices).

Speed of Vessels

In the Central Bay, where vessel traffic is heaviest, vessels must make abrupt movements to navigate around Alcatraz Island or transit under the Bay Bridge to the Port of Oakland.

In early 1993, the Coast Guard Marine Safety Office San Francisco Bay proposed that maximum speed limits be set for certain vessels in the Bay to improve safe navigation. The Vessel Traffic Service (VTS), in a two-week survey in early 1993, noted three large commercial vessels traveling at speeds between 18 to 20 knots within the Central Bay. These speeds were considered excessive, taking into consideration the narrow confines of the shipping lanes, the distance required for large vessels to stop, the many hazards and the number of other vessels generally present, such as commercial ships, ferries, recreational boats and tugs. During May 1993, VTS tracked the speed of 206 vessels inbound and outbound within the Central Bay, which included tankers, ships and tugs with tow. From this sample, it was concluded that the vast majority of vessels were traveling 15 knots or less.

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The Captain of the Port requested the Harbor Safety Committee to formally comment on these findings. After a number of public meetings, the Committee agreed that maximum speed limits should be established for the main ship channels based on the operating characteristics of ships transiting the Bay. For example, industry related that lower speeds, such as a 12-knot limit, would unnecessarily restrict the maneuverability of some ships in swift currents. Also, certain ships can operate only in ranges of full ahead and half ahead, which may not coincide with an established upper speed limit. Taking this information into consideration, the Harbor Safety Committee endorsed the 15-knot speed limit. In addition, the Committee recommended that all vessels be in a response mode that would allow an immediate response to an engine order. It was agreed the maximum speed proposed would apply to an unescorted vessel of 1,600 or more gross tons. Vessels required to be escorted would still be governed by the speed at which assistance could be rendered as outlined in the tug escort regulations.

Federal regulation 33 CFR Parts 162 and 165 became effective May 3, 1995 (see Captain of the Port Advisory #05-095 below). These regulations state in part that the maximum speed for all power driven vessels of 1,600 or more gross tons shall not exceed 15 knots through the water from the COLREGS Demarcation Line to the southern tip of Bay Farm Island, Alameda and the Union Pacific Railroad Bridge in Benicia. The regulations can be found on the web in the Code of Federal Regulations at www.gpoaccess.gov. This standard also applies to a tug with a tow of 1,600 or more gross tons. Power driven vessels of 1,600 or more gross tons shall in any case have their engines ready for immediate maneuver and shall not operate in control modes or with fuels that prevent an immediate response to any engine order ahead or astern or preclude stopping their engines for an extended period of time.

During the summer of 2004, OSPR received a letter from an environmental group alleging frequent violations of the 15-knot (speed over ground) speed limit. The Navigation Working Group met several times to address the issue, and steps were taken to more closely monitor the speed of vessels in the Bay. VTS conducted several speed surveys and by November 2004 determined there was substantial compliance. Those who were not in compliance were promptly notified.

COTP Advisory #05-095 (4 May 1995): ENFORCEMENT OF NAVIGATION RULES IN SAN FRANCISCO BAY

This advisory provides a listing of the major deep-draft channels in San Francisco Bay and adjacent waters which the Captain of the Port considers to be "narrow channels or fairways" within the meaning of the International and Inland Rules of the Road.

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Rule 9, in both the International and Inland Rules of the Road, provide requirements for vessels navigating in the vicinity of narrow channels or fairways. Vessels and powerboats less than 20 meters (approximately 65 feet), all sailboats and vessels engaged in fishing shall not impede the passage of a vessel that can safely navigate only within a narrow channel or fairway. Additionally, a vessel shall not cross a narrow channel or fairway if such crossing impedes the passage of a vessel that can safely navigate only within that channel or fairway. The term "shall not impede" means a small craft must keep well clear and not hinder or interfere with the transit of larger vessels. Small craft and fishing vessels shall not anchor or fish in narrow channels if large vessels or barges being towed are transiting.

Coast Guard enforcement efforts, combined with a public education and information program, are further intended to draw public attention to the serious hazards created when smaller vessels impede large vessels. This effort should result in an improved level of navigational safety and reduce the risk of collisions, groundings and their potential consequences.

The Captain of the Port considers the following areas to be "narrow channels or fairways" for the purpose of enforcing the International and Inland Rules of the Road. This list is not all-inclusive, but identifies areas where deep-draft commercial and public vessels routinely operate. Included in this list and marked by an asterisk (*) are the Regulated Navigation Areas (RNAs) in San Francisco Bay, which were designated in 33 CFR 162 and 165. [May 1995] The regulations can be found on the web in the Code of Federal Regulations at www.gpoaccess.gov.

a. All traffic lanes and precautionary areas in the San Francisco Bay eastward of the San Francisco Approach Lighted Horn Buoy SF (LLNR 360) to the San Francisco -Oakland Bay Bridge and the Richmond -San Rafael Bridge to include:

- *1. Golden Gate Traffic Lanes which include the Westbound and Eastbound Lanes west of the Golden Gate Precautionary Area.
- *2. Golden Gate Precautionary Area.
- *3. Central Bay Traffic Lanes, which include the Deep Water Traffic Lane, The Eastbound Lane (south of Alcatraz Island), and the Westbound Lane (south of Harding Rock).
- *4. Central Bay Precautionary Area.
- *5. North Ship Channel between North Channel Lighted Buoy "A" and the Richmond -San Rafael Bridge.
- *6. Southampton Shoal Channel including the Richmond Long Wharf maneuvering area.

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- *7. Richmond Harbor Entrance Channel and the Point Potrero Reach ending at Point Potrero Turn and including the Turn Basin at Point Richmond.
- 8. Point Potrero Turn.
- 9. Richmond Harbor Channel in its entirety.
- 10. Santa Fe Channel in its entirety.
- *b. Oakland Harbor Bar Channel including the Outer Harbor Entrance Channel and the Inner Harbor Entrance Channel.
- c. Oakland Outer Harbor.
- d. Oakland Inner Harbor from Inner Harbor Channel Light "5" (LLNR 4670) to, and including, the Brooklyn Basin South Channel.
- e. Alameda Naval Air Station Channel in its entirety.
- f. South San Francisco Bay Channels between the central Bay Precautionary Area and Redwood Creek Entrance Light "2" (LLNR 5180).
- g. Redwood Creek between Redwood Creek Entrance Light "2" (LLNR 5180) and Redwood Creek Daybeacon "21" (LLNR 5265).
- *h. San Pablo Straight Channel from the Richmond-San Rafael Bridge to San Pablo Bay Channel Light "7" (LLNR 5900).
- *i. Pinole Shoal Channel in San Pablo Bay between San Pablo Bay Channel Light "7" (LLNR 5900) and San Pablo Bay Channel Light "14" (LLNR 5935).
- j. Carquinez Strait between San Pablo Bay Channel Light "14" (LLNR 5935) and the Benicia-Martinez Highway Bridge.
- k. Mare Island Strait between Mare Island Strait Light "2" (LLNR 6095) and Mare Island Causeway Bridge.
- l. Suisun Bay Channels between the Benicia-Martinez Highway Bridge and Suisun Bay Light "34" (LLNR 6655).
- m. New York Slough between Suisun Bay Light "30" (LLNR 6585) and San Joaquin River Light "2" (LLNR 6670).
- n. Sacramento River Deep Water Ship Channel from Suisun Bay Light "34" (LLNR 6655) to the Port of Sacramento.
- o. San Joaquin River from San Joaquin River Light "2" (LLNR 6670) to the Port of Stockton.

Rules of the Road Enforcement: Timely reporting and enforcement of Rules of the Road infractions promotes safer navigation. Vessel masters, pilots, and operators are encouraged to report incidents, which merit investigation. Reports will be fully investigated and may result in license suspension or revocation proceedings or the assessment of civil penalties.